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Low Temperature Susceptibility of the Noncentrosymmetric Superconductor $Ce_{1-x}La_xPt_3Si$ D.P. YOUNG, M. MOLDOVAN, X.S. WU, P.W. ADAMS, Department of Physics and Astronomy, Louisiana State University, J.Y. CHAN, Department of Chemistry, Louisiana State University — We report ac susceptibility measurements of polycrystalline $Ce_{1-x}La_xPt_3Si$ down to 60 mK and in applied fields up to 9 T. In zero applied field, a full Meissner state emerges for pure $CePt_3Si$ at temperatures $T/T_c < 0.3$, where $T_c = 0.65$ K is the onset transition temperature. Though transport measurements show a relatively high upper critical field $B_{c2} \sim 4$ - 5 T, the low temperature susceptibility, χ' , is quit fragile to applied field, with χ' diminishing rapidly in fields of a few kG. Interestingly, the field dependence of χ' is well described by the power law, $4\pi\chi' + 1 = (B/B_c)^{1/2}$, where B_c is the field at which the onset of resistance is observed in transport measurements. The effects of La doping on the superconductivity will also be presented.

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